

# Connecting the Southeast US with New Transportation & Economic Development Options

How DayJet is leveraging technology to create the first new regional transportation model in 50 years

**Traver Gruen-Kennedy** 

Vice President – Strategic Operations

## The Business Travel Challenge



"We are a nation that is slowing down, not speeding up, during an age when <u>time</u> is the scarce commodity for all of us."

- NASA, 2001

### **Regional Travel Trends**



#### **Business Today is Conducted By Car**

- 80% of all business trips are driven
- Driving has increased 25% in last 3 years alone

#### Air Transportation Options Shrinking, Not Growing

- Service reductions are the trend
- < 500 of 5,000+ US airports in 'commercial' use</li>

#### The Hub & Spoke System Will Not Scale

- 2001 (pre 9/11) was most congested year in history
- 70% of US air traffic is routed through 30 major hubs
- Adding capacity at hubs is difficult

More than half of regional business trips take 2+ days to accomplish

## The Opportunity



#### **Our Vision:**

A world where direct, on-demand jet air transportation between secondary markets is a commercial reality.

### Our View...It's a New Market



A "new" market that will give consumers an on-demand air transportation alternative at a commercial scale...

"Per-Seat, On-Demand" Services

#### The Enablers



## A new market enabled by new technologies...







(1) Large fleets of new-generation, cost-effective, easy-to-operate, ecologically friendly VLJ aircraft

(2) A new generation of proprietary, fully integrated, real-time logistics, optimization & operations systems

## The Technology Challenge



## Three hard combinatorial problems to solve under limited time constraints:

- Real-Time Scheduling handle passenger requests: reaction time is about 5-10 seconds
- Schedule optimization minimize cost and maximize revenue = hours vs. days
- Real time disruption handling for current day operations:
   reaction time = seconds vs. cancellations

## The number of solutions for a small number of aircraft and customers (10 planes/100 customers)

#### The Software



#### **Agent Based Model (ABM)**

- Predictive demand modeling used for selection of DayJet cities
- Uses sophisticated mathematical models to build statistical profiles of travelers
- Profiles used to simulate travelers' decisions to drive, fly commercial or fly DayJet
- Total cost is the single parameter that determines whether or not DayJet "wins" a fare
- ABM predicts a DayJet win rate of less than 2% in most markets.
  - Driving remains the overwhelming mode of intra-regional travel.

#### **Finds Latent Market Demand**

#### The Software



#### Fleet Optimization System (FOS)

- Uses proprietary heuristic programs and algorithms to maximize fleet utilization
  - Executes in seconds
  - Scales to solve problems involving more than 1,000 aircraft
  - Can accept or reject a reservation in seconds
- DayJet expects dead-head flying under 30%

#### **Organizes Demand into Most Efficient Operations**

#### The Software



## Advanced System Technology for Real-Time Operations (ASTRO)

- Overlay architecture uses fleet optimization system to integrate various functions, including:
  - Customer reservations
  - Crew and maintenance scheduling
  - FAA compliance checking
  - Other electronic record keeping

## Allows DayJet to scale business rapidly and efficiently

## Why the Southeast?



#### Southeast US (7 states)

- 346,000 Square Miles
- 52.9M People

#### **Population Distribution**

- 51% Major Markets
- 49% Secondary Markets

#### **Rapid Growth**

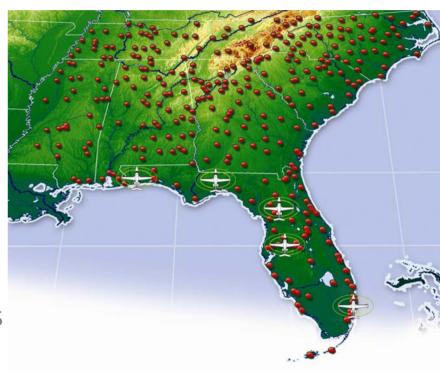
2<sup>nd</sup> Fastest in US

#### 52M Intra-regional business

• 40M Driven, 12M Flown

#### Poor Intra-regional Air service

- Poorest "direct connections" in country
- Average Flight/Connection is 6+ Hours
- 16% reduction in services in 2000-2005



### **Economic Impact**



#### **New Job Creation**

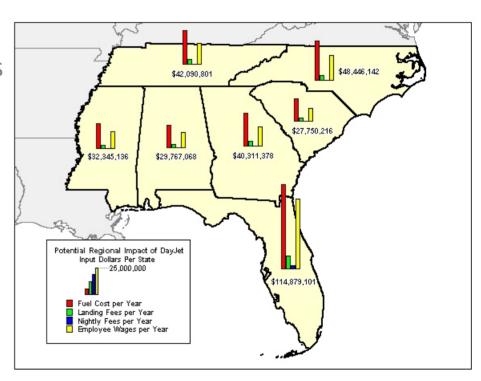
- 800 high-skill, high-wage jobs created in Florida in first year
- 2,000 additional Florida jobs created by year 4
  - 5-10 per DayPort
  - 100-200 per DayBase

#### **Economic Impact**

- \$10-\$25M/yr for DayPorts
- \$25M+/yr for DayBases

#### **VLJ Center of Excellence**

 Prepare students for careers at on-demand service providers





## **Operational Issues**

#### FAA/DOT/JPDO



#### Digital FAR 135 Certificate

- All records filed and available on line
- Digital signatures

FAA Certificate Management Unit (CMU)
ATC supportive of our roll-out plan
Cross Organizational support for modernization



## **DayJet Pilot Training**



#### Safety

Airline FAR 121 Style Pilot Training

- Two-Man Crew
- Extensive ground training
- Use of flight training devices Level 6
- Use of full motion flight simulators Level D
- Initial operating experience IOE
- Experienced Instructor Base
- Pilot quality-of-life



## **DayJet Flight Operations**



#### **Security**

- Adhering to TSA 12-5 Rule
- Pilots 10 year background check
- Maintenance 10 year background check
- Passengers No-Fly list
- Passengers Accompanied from Terminal to Aircraft
- Luggage and passenger inspection at pilot discretion
- Airports Security fencing
- Airports Parking lot monitoring



#### **VLJ Noise**



- 1ppm EPA smoke test
- Eclipse 500 is 30%
   quieter than Stage IV
- Quieter than:
  - all jets
  - all turbo props
  - most single engine props!



## DayStop® Minimums



#### **Airport and FBO**

- Paved Ramp (3500' min.)
- Grooved Runway
- Fenced Perimeter
- Bird Control
- Oxygen, Nitrogen and affordable Jet A fuel
- Connectivity (telephone/modem) FAA & Home Base
- Qualified FBO Line Personnel for Fueling and Towing
- Customer Parking and Restrooms
- Minimal Maintenance Capability
- Car Rental
- Taxi Service

## DayPort® & DayBase® Minimums dayjet

#### Terminal (or FBO)

- DayJet Welcome Desk with dedicated ramp access
- Customer and Employee Monitored Parking
- Technology Support
  - WiFi Internet connectivity for passengers
  - Dedicated Secure WiFi System for DayJet Personnel
  - T-1 Broadband Connection
  - Lockable Closet for Servers
  - IT Back-up Generator
- Public Seating Area
- Work Stations and Meeting Rooms
- Food & Beverage, Retail Outlets (desired)

#### Leased Hangar Space (DayBase only)

• 5000 - 7,000SF min. to 15,000SF max.



## DayPort® & DayBase® Minimums dayJet

#### **Airport**

- Air Traffic Control Tower, Staffed Virtual Tower or
- SATS type High Volume Operation (HVO) and Technology Support
- ILS and WAAS/LPV Approach
- Approach Lighting
- Taxiway Lighting (LEDs OK)
- Crash, Fire & Rescue Services



## DayJet Invests in Modernization



#### **DayJet Fully Integrated Avionics**

- TAWS
- TCAS
- WeatherScope
- ADS-B Enhanced Mode S-ES (1090)
- Dual FMS
- Dual GPS



### **DayJet Drives Modernization**



#### **High Volume Operations (HVO)**

- RNAV/RNP Required Navigational Performance
- LPV WAAS Approaches
  - Localizer Precision with Vertical Guidance (LPV)
  - Wide Area Augmentation System (WAAS)
- Automatic Dependent Surveillance-Broadcast (ADS-B)
  - TIS-B, FIS-B, ADS-R
- Runway incursion avoidance system
- Color signal lighting (runways/taxiways)





## What's Next?

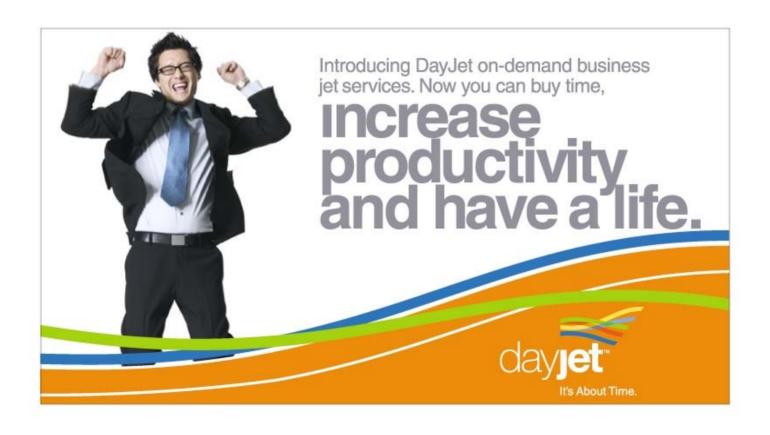
#### It's About Time





#### It's About Time





#### Let's Take-Off!





Are you ready to DayJet?

www.dayjet.com

#### **Questions?**



